REMARKS

The Office Action dated September 26, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 3-5, 8, 13-14, 40-42, and 46-47 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. Therefore, claims 1-48 are currently pending in the application and are respectfully submitted for consideration.

The Office Action rejected claims 1-48 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,173,918 ("Awater"). The rejection is respectfully traversed for the following reasons.

Claim 1, upon which claims 2-13 are dependent, recites a method which includes receiving roaming support information by means of signaling from a subscriber terminal via an interface to a load control device being located externally to the subscriber terminal, the roaming support information being determined on the basis of access point status information determined in a plurality of access points, and communication status information related to the plurality of access points. The method further includes processing, in the load control device, the roaming support information by an access point related load based roaming analysis, deciding, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points, and if so, sending a

command to a serving access point associated with the subscriber terminal, the command instructing the serving access point to initialize roaming of the subscriber terminal to the another one of said plurality of access points.

Claim 14, upon which claims 15-26 are dependent, recites a system which includes an access point load status monitoring unit located in each one of a plurality of access points, and configured to measure a traffic load of an access point and to transmit access point status information, and a roaming support unit located in a subscriber terminal, and configured to receive the access point status information from the plurality of access points, to determine communication status information related to the plurality of access points, to process the received access point status information and the communication status information in order to obtain roaming support information and to transmit the roaming support information. The system further includes a load control device located externally to the subscriber terminal, the load control device being configured to receive the roaming support information by signaling via an interface from the subscriber terminal, to process the roaming support information by an access point related load based roaming analysis, to decide, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points, and to send a command to a serving access point associated with the subscriber terminal to initialize roaming of the subscriber terminal from the associated one to the another one of the plurality of access points in a wireless communication network. The wireless communication network further includes

the subscriber terminal configured to establish and perform a wireless communication connection in the wireless communication network, and the plurality of access points configured to control the wireless communication connection of the subscriber terminal and to exchange information with the subscriber terminal, wherein one of the plurality of access points is associated with the subscriber terminal.

Claim 27, upon which claims 28-39 are dependent, recites a load control device which is configured to receive roaming support information by means of signaling from a subscriber terminal via an interface, the roaming supporting information being determined on the basis of access point status information of a plurality of access points, and process the roaming support information by an access point related load based roaming analysis. The load control device is also configured to decide, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points, and send a command to a serving access point associated with the subscriber terminal, the command instructing the serving access point to initialize roaming of the subscriber terminal from the associated one to the another one of the plurality of access points in the wireless communication network, wherein the load control device is located externally to the subscriber terminal.

Claim 40 recites an access point which includes an access point load status monitoring unit configured to measure a traffic load of an access point and to transmit access point status information, and a load control device. The load control device is

configured to receive roaming support information by means of signaling from a subscriber terminal via an interface, the roaming supporting information being determined on the basis of access point status information of a plurality of access points, and process the roaming support information by an access point related load based roaming analysis. The load control device is further configured to decide, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points, and send a command to a serving access point associated with the subscriber terminal, the command instructing the serving access point to initialize roaming of the subscriber terminal from the associated one to the another one of the plurality of access points in the wireless communication network. The load control device is located externally to the subscriber terminal, and the access point is usable in a wireless communication network being configured to control a wireless communication connection of the subscriber terminal and to exchange information with the subscriber terminal.

Claim 41 recites a network element which includes a load control device configured to receive roaming support information by means of signaling from a subscriber terminal via an interface, the roaming supporting information being determined on the basis of access point status information of a plurality of access points, and process the roaming support information by an access point related load based roaming analysis. The load control device is further configured to decide, on the basis of a result of the access point related load based roaming analysis, whether the subscriber

terminal is to be associated with another one of the plurality of access points, and send a command to a serving access point associated with the subscriber terminal, the command instructing the serving access point to initialize roaming of the subscriber terminal from the associated one to the another one of the plurality of access points in the wireless communication network. The load control device is located externally to the subscriber terminal. The network element is separated from, and connected to, the plurality of access points.

Claim 42 recites a subscriber terminal which includes a roaming support unit configured to receive access point status information from a plurality of access points, to determine communication status information related to the plurality of access points, to process the received access point status information and the communication status information in order to obtain roaming support information, and to transmit the roaming support information to a load control device. The load control device is configured to receive roaming support information by means of signaling from a subscriber terminal via an interface, the roaming supporting information being determined on the basis of access point status information of a plurality of access points, and process the roaming support information by an access point related load based roaming analysis. The load control device is further configured to decide, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points, and send a command to a serving access point associated with the subscriber terminal, the command instructing the serving

access point to initialize roaming of the subscriber terminal from the associated one to the another one of the plurality of access points in the wireless communication network. The load control device is located externally to the subscriber terminal. The subscriber terminal performs, in response to an instruction from a serving access point triggered by the load control device, roaming from the associated one to another one of the plurality of access points in a wireless communication network, the another one of the plurality of access points is indicated in the instruction from the load control device.

Claim 43, upon which claims 44-46 are dependent, recites a computer program product embodied on a computer readable medium, where the computer program product is configured to execute a method which includes receiving roaming support information by means of signaling from a subscriber terminal via an interface to a load control device being located externally to the subscriber terminal, the roaming support information being determined on the basis of access point status information determined in a plurality of access points and communication status information related to the plurality of access points, and processing, in the load control device, the roaming support information by an access point related load based roaming analysis. The method further includes deciding, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points; and if so, sending a command to a serving access point associated with the subscriber terminal, the command instructing the serving access point to initialize roaming of the subscriber terminal to the another one of the plurality of access points.

Claim 47 recites a device which includes a receiver configured to receive, from a subscriber terminal, roaming support information by means of signaling via an interface, the roaming support information being determined on the basis of access point status information of a plurality of access points, and a processor configured to process the roaming support information by an access point related load based roaming analysis, and to decide, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points. The device further includes a sender configured to send a command to a serving access point associated with the subscriber terminal, the command instructing the serving access point to initialize roaming of the subscriber terminal from the associated one to the another one of the plurality of access points in a wireless communications network. The load control device is located externally to the subscriber terminal.

Claim 48 recites a device which includes receiving means for receiving, from a subscriber terminal, roaming support information by means of signaling via an interface, the roaming support information being determined on the basis of access point status information of a plurality of access points, and processing means for processing the roaming support information by an access point related load based roaming analysis. The device further includes deciding means for deciding, on the basis of a result of the access point related load based roaming analysis, whether the subscriber terminal is to be associated with another one of the plurality of access points, and, sending means for sending a command to a serving access point associated with the subscriber terminal, the

command instructing the serving access point to initialize roaming of the subscriber terminal from the associated one to the another one of the plurality of access points in a wireless communications network. The load control device is located externally to the subscriber terminal.

As will be discussed below, Awater fails to disclose or suggest all of the elements of the claims, and therefore, fails to provide the advantages and features described below.

Awater discloses a communication system with a plurality of access points, and at least one network station. Awater further discloses that the network station is arranged to communicate with one of the plurality of access points through a wireless communication protocol, and that each access point is able to monitor its access point traffic load, and transmit an access point traffic load parameter to the network station. Awater further discloses that the network station is able to monitor its network station traffic load, store a network station traffic load parameter, receive access point load parameters from the access points, and select a communication connection with one of the access points using a predetermined cost function which takes into account the access point traffic load parameters and the network station traffic load parameters. Furthermore, Awater discloses that the calculating of the traffic load parameters, and the deciding of which access point to use for the communication connection, both occur at the network station. Finally, Awater discloses that the network station connects to the network by means of a wireless data communication, and that the network station may be any type of telecommunication equipment that uses a wireless data communication network, such as

a mobile telephone, a pager, a personal digital assistant, a personal computer, a laptop computer, etc. (see Abstract, column 5: lines 59-67).

Applicants respectfully submit that Awater fails to disclose, teach, or suggest, all of the elements of the present claims. For example, Awater does not disclose, teach, or suggest, at least, "receiving roaming support information by means of signaling from a subscriber terminal via an interface to a load control device being located externally to the subscriber terminal ...," as recited in claims 1 and 43; "a load control device located externally to said subscriber terminal, said load control device being configured to receive said roaming support information by signaling via an interface from said subscriber terminal ...," as recited in claim 14; and "receive roaming support information by means of signaling from a subscriber terminal via an interface ...," and "wherein the load control device is located externally to said subscriber terminal," as recited in claim 27, and similarly recited in claims 40-42 and 47-48.

As discussed above, Awater discloses a communication system with a plurality of access points and at least one network station, and that the <u>network station</u> decides which access point to use for the communication connection (i.e. the network station makes the handover decision) (see Abstract). Awater further discloses in greater detail, with reference to Figure 5, that the <u>network station</u> performs a sweep to collect traffic information from all available access points, including access point traffic load (ATT), average noise level (ANL), threshold value (ThV), and signal reception level (SRL), calculates a communication quality and load value (CQL) for each access point using the

ATT, SRL, ANL, ThV values, and a weighted value, determines which access point has the largest CQL value, and then, if necessary, changes its association from the old access point to a new access point with better overall quality (see column 11, lines 7-55, Figure 5). Claim 1 of the cited Awater reference also makes clear that it is the <u>network station</u> that makes the handoff decision by reciting "a network station ... the network station adapted to ... generate for said each access point, a cost function value ... and compare the cost function values to select a communication connection with one of the at least two access points."

Furthermore, Awater explicitly discloses that the term "network station" is a mobile terminal within a local access network. Specifically, as described above, Awater describes that a network station may be mobile or at a fixed position, and that a network station connects to the network by means of a wireless data communication. Awater further defines the term "network station" as "any type of telecommunication equipment that uses a wireless data communication network, such as mobile telephones, pages, PDAs (personal digital assistants), laptop computers, etc.," (column 5, lines 59-67). Thus, Awater is directed to a conventional handoff scheme in a wireless local area network, i.e. a handoff scheme where a handover calculation and decision is made by the <u>mobile terminal itself</u> as opposed to a network element. Awater fails to disclose or suggest that the handover calculation or decision is performed in a load control device which is not located in the mobile terminal (i.e. which is external to the mobile terminal).

In contrast, a preferred embodiment of the present invention is directed to a load balancing mechanism in a communication network, such as a wireless local area network, where a decision for performing roaming (i.e. a handoff decision) of a mobile terminal from one access point to another is made by an external load controller, i.e. the functionality for making the handover decision is not located within the mobile terminal but instead is located external to the mobile terminal (e.g. located in the access point of the network).

Furthermore, the claims of the present invention are directed to a load control device that is located externally to a mobile terminal where the mobile device is configured to receive roaming support information by signaling via an interface from the mobile terminal, as recited in claim 1, and similarly recited in claims 14, 27, 40-43, and 47-48. Awater fails to disclose or suggest a load control device that makes roaming decisions that is located externally to a mobile terminal, and Awater also fails to disclose or suggest that the mobile terminal signals roaming support information to the external load control device via an interface. Thus, Awater fails to disclose, teach, or suggest, at least, "receiving roaming support information by means of signaling from a subscriber terminal via an interface to a load control device being located externally to the subscriber terminal ...," as recited in claims 1 and 43; "a load control device located externally to said subscriber terminal, said load control device being configured to receive said roaming support information by signaling via an interface from said subscriber terminal ...," as recited in claim 14; and "receive roaming support information

by means of signaling from a subscriber terminal via an interface …," and "wherein the load control device is located externally to said subscriber terminal," as recited in claim 27, and similarly recited in claims 40-42 and 47-48.

Therefore Awater fails to disclose, teach, or suggest all of the elements of claims 1, 14, 27, 40-43, and 47-48. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claims 2-13 depend from claim 1, claims 15-26 depend from claim 14, claims 28-39 depend from claim 27, and claims 44-46 depend from claim 43, respectively. Thus, Applicants respectfully submit that claims 2-13, 15-26, 28-39, and 44-46 should be allowed, at least, for their dependence upon claims 1, 14, 27, and 43, and for the specific limitations recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art references fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-48 be allowed, and this application passed to issue

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosures: Additional Claim Fee Transmittal
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